

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1. An automatic cycle storage system comprising:
  - a plurality of cycles {1}, each carrying a locking device {9} and an electronic control circuit {23},
  - a plurality of locking stations {8} onto which the locking devices {9} of the cycles can be locked when they are not in use,
  - and at least one control device {2} adapted to selectively enable the borrowing of cycles {1} from at least some locking stations {8}, the control device {2} being adapted to interact with the electronic control circuit {23} of a cycle locked onto a locking station {8} corresponding to said control device,  
**wherein** at least some of the locking stations {8} comprise an electrical power source {35} and a first electrical power supply interface {33} adapted to transfer electrical power from the electrical power source {35} to a cycle {1} locked onto said locking station,
  - wherein** at least some of the cycles {1} are electrically propelled cycles, each comprising an electric propulsion motor {38} supplied by a main battery {37}, the main battery being connected to a recharging circuit {36} controlled by the electronic control circuit {23}, said recharging circuit {36} being connected to a second electrical power supply interface {34} which is adapted to receive electrical power from the electrical power source

{35} via the first electrical power supply interface {33} when the cycle {1} is locked onto the locking station {8}, and wherein the electronic control circuit {23} is adapted to determine whether the cycle {1} is locked onto the locking station {8} and to enable the recharging circuit {36} to operate to charge the main battery {37} only if the cycle {1} is locked onto the locking station {8}.

2. The system as claimed in claim 1, in which the electronic control circuit {23} is adapted to enable the recharging circuit {36} to operate to charge the main battery {37} only after a predetermined dialogue with the control device {2} when the cycle {1} is locked onto the locking station {8}.

3. The system as claimed in claim 1 ~~or claim 2~~, in which the locking device {9} of the cycle interacts with a complementary locking device {10} belonging to the locking station {8}, the first and second electrical power supply interfaces {33, 34} being fixed respectively to the complementary locking device {10} and the locking device {9}.

4. The system as claimed in claim 3, in which the locking device {9} and the complementary locking device {10} are adapted to interact by fitting into each other, thus masking the first and second electrical power supply interfaces {33, 34} when the cycle {1} is locked onto the locking station {8}.

5. The system as claimed in ~~any one of the preceding~~  
~~claims~~ claim 1, in which the control device {2} is adapted  
to control the electrical power source {35} and to supply  
said first electrical power supply interface {33} with  
electrical power only if the cycle {1} is locked onto the  
locking station {8}.

6. The system as claimed in ~~any one of the preceding~~  
~~claims~~ claim 1, in which the locking station {8} comprises  
an anchoring member {10}, and the locking device {9} of  
each cycle has an electric bolt {14} controlled by the  
electronic control circuit {23} of the cycle and adapted to  
be locked onto the anchoring member {10}.

7. The system as claimed in claim 6, in which the  
anchoring member {10} comprises identification means {24}  
readable by the electronic control circuit {23} of the  
cycle.

8. The system as claimed in ~~any one of the preceding~~  
~~claims~~ claim 1, in which the control device {2} has a first  
short-range wireless communication interface {29}, the  
cycle has a second short-range wireless communication  
interface {30} adapted to communicate with the first  
communication interface {29}, this second communication  
interface {30} being connected to the electronic control  
circuit {23} of the cycle, and the control device {2} is  
adapted to control the locking device {9} of each cycle via  
the first communication interface {29} and the second  
communication interface {30}.

9. The system as claimed in claim 8, in which the first and second communication interfaces ~~(29, 30)~~ are radio communication interfaces.

10. The system as claimed in ~~any one of the preceding claims~~ claim 1, in which the electrical power source ~~(35)~~ delivers a low voltage.

11. System as claimed in ~~any one of the preceding claims~~ claim 1, in which the recharging circuit ~~(36)~~ is adapted to supply a secondary battery ~~(39)~~ as long as an electrical voltage is present at the second power supply interface ~~(34)~~, said secondary battery ~~(39)~~ supplying the electronic control circuit ~~(23)~~.

12. The system as claimed in ~~any one of the preceding claims~~ claim 1, in which the control device ~~(2)~~ is adapted to communicate with the electronic control circuit ~~(23)~~ of the cycle by carrier current modulation, via the first and second electrical power supply interfaces ~~(33, 34)~~.

13. A cycle for a system as claimed in ~~any one of the preceding claims~~ claim 1, this cycle having:

- a locking device ~~(9)~~,
- an electronic control circuit ~~(23)~~,
- an electric propulsion motor ~~(38)~~ adapted to propel the cycle ~~(1)~~,
- a main battery ~~(37)~~ supplying the electric motor ~~(38)~~,
- a recharging circuit ~~(36)~~ controlled by the electronic control circuit ~~(23)~~ and connected to the main battery ~~(37)~~,

- an electrical power supply interface {34} connected to said recharging circuit {36} and adapted to receive electrical power from an external electrical power source {35} when the cycle {1} is locked onto a locking station {8},  
the electronic control circuit {23} being adapted to determine whether the cycle {1} is locked onto the locking station {8} and to enable the recharging circuit {36} to operate to charge the main battery {37} only if the cycle {1} is locked onto said locking station {8}.